

CLAIMS

1. An integrated image-reading/writing head comprising:
an oblong rectangular substrate having a first
5 longitudinal edge portion, a second longitudinal edge portion
and a surface mounted with an array of light receiving elements;
an oblong case mounted on said surface, enclosing the light
receiving elements;
a transparent cover attached to the case, facing the
10 substrate and tightly contacted by a document being fed;
a light source disposed within the case for illuminating
the document;
a lens disposed within the case for focusing an image of
the document illuminated by the light source on the light
15 receiving elements;
an array of heating elements mounted on the substrate; and
a plurality of drive IC's each driving a predetermined
number of the heating elements; characterized in
that the first longitudinal edge portion is extended out
20 of the case by a predetermined width; and
that the heating elements being mounted on a region of said
surface extended out of the case.

2. The integrated image-reading/writing head according to
25 Claim 1, wherein the light source is mounted on said surface.

3. The integrated image-reading/writing head according to
Claim 2, wherein the light source is mounted closer to a

longitudinal edge of the second longitudinal edge portion than
is the array of the light receiving elements in said surface.

4. The integrated image-reading/writing head according to
5 the Claim 2, wherein the light source is mounted between the
array of the heating elements and the array of the light
receiving elements in said surface.

5. The integrated image-reading/writing head according to
10 Claim 2, wherein the drive IC's are mounted on said surface
at an interval in an array extending longitudinally of the
substrate.

6. The integrated image-reading/writing head according to
15 Claim 5, wherein the light source includes a plurality of light
source elements.

7. The integrated image-reading/writing head according to
Claim 6, wherein a part of the light source elements are mounted
20 in each of the intervals between the drive IC's in said surface.

8. The integrated image-reading/writing head according to
Claim 6, wherein two or more of the light source elements are
mounted in each of the intervals between the drive IC's in said
25 surface, the two or more of the light source elements being
connected electrically in series.

9. The integrated image-reading/writing head according to
Claim 6, wherein said surface is formed with a power supply
wiring pattern for supply of electric power to each of the light
receiving elements and the light source.

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10. The integrated image-reading/writing head according to
Claim 9,

wherein the power supply wiring pattern formed on said
surface extends longitudinally of the substrate along the
array of the light receiving elements, said surface being
further formed with a grounding wiring pattern for the drive
IC's longitudinally of the substrate along the power supply
wiring pattern, and

wherein at least a part of the light source elements being
mounted on a region between the power supply wiring pattern
and the grounding wiring pattern.

15 11. The integrated image-reading/writing head according to
Claim 10, wherein at least a part of the light source elements
20 is mounted directly on the grounding wiring.

12. An image processing apparatus comprising:

the integrated image-reading/writing head according to
Claim 1;

25 a first platen roller pressing the transparent cover and
feeding the document under tight contact onto the transparent
cover; and

a second roller pressing the array of the heating elements and feeding a recording paper under tight contact onto the array of the heating elements.

5 13. The image processing apparatus according to Claim 12, wherein the integrated image-reading/writing head is incorporated in a predetermined box.

10 14. The image processing apparatus according to Claim 13, wherein the box is formed with an opening for exposure of inside of the box, and a lid member capable of closing the opening.

15 15. The image processing apparatus according to Claim 14, wherein the opening exposes the integrated image-reading/writing head when opened, the integrated image-reading/writing head being pivotable about an axis extending longitudinally of the substrate.

20 16. The image processing apparatus according to Claim 15, wherein the axis is provided by a rotating shaft of the second platen roller.

25 17. The image processing apparatus according to Claim 16, wherein the first longitudinal edge portion of the substrate is provided with retaining means having an insertion portion projecting toward the second platen roller and loosely holding the rotating shaft of the second platen roller.

18. The image processing apparatus according to Claim 14,
further comprising pressing force adjusting means adjusting
each of a pressing force of the first platen roller onto the
transparent cover and a pressing force of the second platen
5 roller onto the heating elements when the opening is closed.

19. The image processing apparatus according to Claim 18,
wherein the pressing force adjusting means includes a pressing
member pressing the substrate to the first platen roller and
10 the second platen roller.

20. The image processing apparatus according to Claim 19,
wherein two of the pressing members are disposed widthwise of
the substrate for pressing each of the first longitudinal edge
15 portion and the second longitudinal edge portion of the
substrate.

21. The image processing apparatus according to Claim 19,
wherein only one of the pressing member is disposed widthwise
20 of the substrate for pressing a predetermined region of the
substrate for distribution of the pressing force to each of
the longitudinal edges of the substrate at a desired ratio.

22. The image processing apparatus according to Claim 19,
25 wherein the pressing member is made of an elastic member.

23. The image processing apparatus according to Claim 14,
wherein the integrated image-reading/writing head is attached

to the lid member.